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ROYAL ONTARIO MUSEUM OF ZOOLOGY
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TEACHING CONSERVATION

ALTHOUGH the need for conservation is widely discussed, there is a great deal of misunderstanding as to the meaning of the term and of the methods to be followed. Such misunderstanding is a real hindrance to the spread of true conservation practices. For instance, many people think conservation means interference with the use of something, as exemplified by the old lady who wouldn't let her family eat any good apples from the orchard, but insisted that apples had to begin to spoil before they could be used. Persons who have this conception of conservation are naturally opposed to it.

True conservation does not prohibit use, but it does mean *wise use*. To conserve fur-bearing animals does not mean that we must not trap them for their fur, but it does mean that we should not trap so many that only a few are left to produce young for another year. If too many trout or bass are taken from the lakes or streams, the number of young produced in subsequent years will be less than if we had been wise and taken only a proper number. If a sheep farmer has enough land to keep twenty sheep and these raise twenty young ones each year, he can sell twenty every year, but if he sells thirty, at the end of a year he will have only ten left. If these produce only ten young, and he sells fifteen, he will have only five left. If we take more than the natural increase of game and fur-bearing animals, fish and forest growth, there will be less and less to take as time goes on. If we follow proper conservation principles, we may not be able to take as many animals or fish, or cut as many trees *at first*, but if we take only the natural increase, our lakes and streams and forests will go on yielding us a moderate return indefinitely.

This brings us to another principle of conservation, namely that we who are living to-day have no right to exterminate the game and fur-bearing animals, the fish and the other natural life, and thus leave none for those who are to follow us in the years to come. We should have thought it unfair if our forefathers had so spoiled the country that it was less useful and less attractive to us than it is, and it is our duty to see that it is at least as good a place in which to live in the future as we found it.

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We should apply conservation ideas to other features besides wild life and forests. We need to conserve the natural flow of water in our streams. In some parts of the country where the forests have all been cut down, there are destructive floods in the spring and very little water in the streams in summer. The same streams that were raging torrents in spring, shrink to mere trickles later on. When forests covered the country, the snow melted gradually in the woods, and the mat of leaves and moss under the trees acted as a sponge to soak up the water and to keep it from running away too quickly. Where the forests have been removed and the country consists of bare fields, the warm sun and the rains of spring melt the snow very quickly, and the water runs away rapidly into the streams, thus causing floods. The water runs off open fields and bare rock almost as readily as it does off the roof of a house. Because the water from the winter snows and spring rains all drain off the land so quickly and so completely in spring, the streams are very small in summer and many of the wells throughout the country dry up. Even where forests have been largely cleared away, as in the older agricultural sections, marshes and swamps act as reservoirs to hold back the water produced by the snow and rain, and serve to regulate the flow of streams by holding back some water from joining the spring flood, and feeding it into the streams in summer. Too many of these marshes and swamps have been drained to make more land for crops. Of course, we need land to grow crops, but if clearing away all the trees and draining all the marshes and swamps is going to cause floods which do damage amounting to millions of dollars, besides drowning large numbers of people, it will be necessary to conserve some of our forests and swamps.

It sometimes happens that a group of people wishes to do something for its own interests which injures the rights of others. Then the government must decide what is to be done, in order that the greatest good may accrue to the greatest number of people. Thus, swamps should not be drained, if the draining will interfere with the flow of streams on which many people are depending for watering their cattle, fishing, bathing, etc. Similarly, the government must decide between two groups of people, one of which wants a certain animal to be exterminated, while another group wants it protected. For instance, some people interested in fishing want the great blue herons killed, because they sometimes eat speckled trout, while other people enjoy observing herons and ask the government to protect them. No group should be allowed to carry out its wishes without respect to the rights and interests of others.

In all sorts of ways, governments regulate the actions of individuals so that they do not unnecessarily injure others; for instance, we are not allowed to drive our motor cars as fast as we should sometimes like to

do, or to associate with other people if we have a contagious disease, because of the injury we might cause to others. In the same way, the rights of others must be considered in any action we may wish to take, for either the protection or the destruction of anything in nature.

It sometimes happens, too, that wild creatures are killed by people who *think* they are injurious to their interests, when they are really beneficial. A story related by the famous biologist, Sir Arthur Thomson, illustrates this very well:

There is an Australian story which reads as if written for man's instruction. On certain Murray River swamps several species of cormorants used to swarm in thousands, but ruthless massacres, based on the supposition that the cormorants were spoiling the fishing, reduced them to hundreds. But the fishing did not improve; it grew worse. It was then discovered that the cormorants fed largely on crabs, eels, and some other creatures which devour the spawn and fry of desirable fishes. Thus the ignorant massacre of the cormorants made for the impoverishment, not for the improvement, of the fishing. The obvious moral is that man should get at the facts of the web of life before, not after, he has recourse to drastic measures of interference.

We must not make the mistake of thinking that only "useful" things should be conserved. Most people now appreciate the importance of conserving our game and commercial fish, our game and fur-bearing animals, and our forests, but not enough thought is given to the preservation of the natural attractions of our country. A beautiful mountain is as much worthwhile for the joy we get from beholding it, as fur-bearing animals from which we get the furs to keep us warm in winter. As a matter of fact, we can get substitutes for furs to keep out the cold, but there is no substitute for a mountain or for most of the other beauties of nature, many of which are being destroyed because they do not appear to us to be "useful". None of us would want to live in a country where everything in nature had been destroyed except that which was useful in a narrow sense, and where there was nothing left to enjoy. The beauties of nature are some of our most valuable possessions in this country. Hundreds of thousands of people from the United States and other parts of the world come to Canada every year, especially in summer, to find recreation on our innumerable lakes and rivers in the midst of the beauties of the unspoiled wilderness. Canada in summer is a veritable playground. Let us strive to keep it as attractive as we can, not only for the tourist from other countries, but also to give our own people the greatest possible enjoyment out of living in such a land.

If we wish to use our natural resources wisely, and at the same time retain the natural attractions of the country, we must become real conservationists. We must learn as much as we can about wild life; the different kinds of plants, birds, mammals, fish, etc., their life histories and habits, and what contributes to their welfare; we must try to so interest

and instruct others that they, too, will understand and appreciate nature; we must work for the preservation of nature through the creation of sanctuaries and reserves of various kinds, that wild life may have some place where it is safe from destruction; and as citizens and voters we must use our influence to see that conservation laws are passed.

The following organizations may be consulted for further information on conservation:

National Parks of Canada, Department of Interior, Ottawa. In charge of National Parks; administers the Migratory Birds Convention Act, supplies information on attracting birds, building bird houses, etc.

Department of Lands and Forests, Toronto. In charge of provincial parks of Ontario; preservation of Ontario forests.

Department of Game and Fisheries, Toronto. Administers game and fisheries laws.

Federation of Ontario Naturalists, 198 College St., Toronto. Encouragement of nature study and preservation of nature.

Ontario Federation of Anglers, 65 Bloor St. W., Toronto. Preservation of game fish.

Ontario Hunters' Game Protective Association, 38 Follis Ave., Toronto. Preservation of game.

Canadian Forestry Association, Ottawa. Preservation of forests.

Royal Ontario Museum of Zoology, Toronto. Will be glad to answer enquiries on any phase of natural history.

J. R. D.



